

WE CLAIM:

1. A process for continuously manufacturing boron nitride utilizing a graphite capsule/vessel container for the reaction mixture and utilizing a pusher-type of high-temperature furnace and comprising the steps of
  - during the preheat step: pushing the graphite capsule/vessel through hot zones such that the reacting mixture is heated uniformly throughout its cross-sectional area and is held at or below 1000°C.
  - during the ultra-high-temperature heating step: pushing the graphite capsule/vessel through hot zones such that the reacting mixture is heated uniformly throughout its cross-sectional area and is held in the range of 1600 to 2200°C.
2. The process of claim 1 whereby, during the preheat step, the reacting mixture is held at or below 1000°C until about 80 weight percent of the initial starting weight is volatilized.
3. The process of claim 1 whereby, during the ultra-high-temperature heating step, the reacting mixture is held in the range of 1600 to 2200°C until 2 weight percent of the initial starting weight is volatilized.
4. The process of claim 1 whereby, during the ultra-high-temperature heating step, the temperature is held in the range of 1900 to 2000°C.
5. The process of claim 4 whereby the time in the temperature range is one to two hours.

6. The process of claim 1 further comprising a counterflow of nitrogen such that the offgassing products are directed towards the furnace entrance, up and out into an afterburner where the noxious gases are eliminated by time and temperature.
7. The process of claim 1 wherein said boron nitride is of uniform consistency of crystallinity and purity due to the uniformity of the temperature over its cross-sectional area during the preheat step and during the ultra-high-temperature step.
8. The process of claim 1 wherein said boron nitride has an overall purity of over 95% boron nitride and has a uniform smooth feel, when tested by finger rubbing, when the material is selected from anywhere within the cross sectional area of the graphite capsule/vessel container.